

012222



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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SWA10A-2
Job Sheet 201327



Deviction

Part No: SWA10A-2

Job Qty: 1 pcs

Part Name: Electric Swivel 10,000 lb Safe Work Load (4,536 Kg)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/1/19

Job Tracking No:

Due Date: 11/1/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG SWA10A Rev 3 IPP Rev A 17.12.20 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	External Load - 1	1 pcs	11/1/19		0.00	2.00	External Load - 1		Michel 2019-10-2
							External Load - 2		
							External Load - 3		
110	External Load - 2 - B4B	1 pcs	11/1/19		0.00	2.00	External Load - 1 - B4B		Michel 2019-10-9
							External Load - 2 - B4B		
							External Load - 3 - B4B		
120	QC 5	1 pcs	11/1/19		0.00	0.00	QC 5 - 10		DAS 30 9-89 OCT 10 2019
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		
130	Packaging 3-1 - Stock - B4B	1 pcs	11/1/19		0.00	0.00	Packaging 3 - 1 - B4B		Plex 10/1/19 10:20 AM Dart.lajeunesse.marie
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		



Dart Aerospace Ltd.
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CANADA
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Container No: S220774



Part: SWA10A-2

Job No: 201327

Serial No/Batch: S220774

Revision: 3

Inspector:

Exp Date:

				Packaging 3 - 7 - B4B	DAS	
				Packaging 3 - 8 - B4B	30	
				Packaging 3 - 9 - B4B	9-89	OCT 10 2019
				Packaging 3 - 10 - B4B		
				Packaging 3 - 11 - B4B		
				Packaging 3 - 12 - B4B		
				Packaging 3 - 13 - B4B		
				Packaging 3 - 14 - B4B		
				Packaging 3 - 15 - B4B		
				Packaging 3 - 16 - B4B		
				Packaging 3 - 17 - B4B		
				Packaging 3 - 18 - B4B		
				Packaging 3 - 19 - B4B		
				Packaging 3 - 20 - B4B		
				Packaging 3 - 21 - B4B		
				Packaging 3 - 22 - B4B		
				Packaging 3 - 23 - B4B		
				Packaging 3 - 24 - B4B		
				Packaging 3 - 25 - B4B		
				Packaging 3 - 26 - B4B		
				Packaging 3 - 27 - B4B		
				Packaging 3 - 28 - B4B		
				Packaging 3 - 29 - B4B		
				Packaging 3 - 30 - B4B		
				Packaging 3 - 31 - B4B		
				Packaging 3 - 32 - B4B		
				Packaging 3 - 33 - B4B		
				Packaging 3 - 34 - B4B		
				Packaging 3 - 35 - B4B		
				Packaging 3 - 36 - B4B		
135	DC - 1 - B4B	1 pcs	11/1/19	0.00 0.00	DC - 1 - B4B	DAS
					DC - 2 - B4B	21
140	QC 21 - FG	1 pcs	11/1/19	0.00 0.00	QC 21 - FG - 21	9-89
					QC 21 - FG - 70	DAS
					QC 21 - SA - 53	21

Part Op 100 - (Small Fab) -Assemble as per DWG. Sheet 1 ***All assembly to be done in accordance with SWA swivel manual***
 Descriptions: Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG. Laser engrave dart logo as per DWG.

110 - (Small Fab) -Assemble as per DWG. Sheet 1 ***All assembly to be done in accordance with SWA swivel manual***
 Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG. Laser engrave dart logo as per DWG.

120 - (QC5- Inspect part completeness to step on W/O) Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG.

130 - (Identify as per dwg & Stock Location: *GA Old*) Bag and tag

135 - (Document Control) Photocopy blue file OM & OOPM-SWA10A Rev2

140 - (QC21- Final Inspection - Work Order Release)

Loctite 242 (5186572)

Loctite 620 (5194792)

Sof-T-eye (M138973)

aeroshell grease No.7 (M138724)

Silicone grease (5208127)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
188-FPSS-1032-5/8	Set Screw	1 Ea (1 ea)	100-External Load - 1	5037083
188-FSCS-1032-5/8	Flat socket cap Screw	4 Ea (4 ea)	110-External Load - 2 - B4B	5216680
C10-28	Swivel Bushing, C10/SWA10	1 pcs (1 ea)	110-External Load - 2 - B4B	5095933
EL-PLUG-F	3-Prong Female Spade Plug	1 Ea (1 ea)	110-External Load - 2 - B4B	5163923
EL-PLUG-M	3-Prong Male Spade Plug	1 Ea (1 ea)	110-External Load - 2 - B4B	5216721
EL314-SJTOW	Long Line Electrical Wire, 14/3 Gauge replace w/t 01004-08-047	6 ft (6 ea)	110-External Load - 2 - B4B	5179682
SWA10A-100	Lower End	1 pcs (1 ea)	110-External Load - 2 - B4B	5088516
SWA10A-1100	Upper DU Bearing	1 pcs (1 ea)	110-External Load - 2 - B4B	5199378
SWA10A-1200	Lower DU Bearing	1 Ea (1 ea)	110-External Load - 2 - B4B	5062772
SWA10A-1300	Roller Thrust Bearing	1 Ea (1 ea)	110-External Load - 2 - B4B	5196381
SWA10A-1400	Circlip	1 Ea (1 ea)	110-External Load - 2 - B4B	5128726
SWA10A-1800	Cover	1 pcs (1 ea)	110-External Load - 2 - B4B	5099112
SWA10A-200	Upper End Swivel	1 pcs (1 ea)	110-External Load - 2 - B4B	5094924
SWA10A-300	Bearing Housing	1 pcs (1 ea)	110-External Load - 2 - B4B	5099122
SWA10A-400	Thrust Washer	1 pcs (1 ea)	110-External Load - 2 - B4B	5158399
SWA10A-500	Semi-Rings	1 pcs (1 ea)	110-External Load - 2 - B4B	5068691
SWA10A-600	Collar	1 pcs (1 ea)	110-External Load - 2 - B4B	5101406
SWA10A-700	Wire Clamp	2 pcs (2 ea)	110-External Load - 2 - B4B	5152898
SWA6A-1900	1/4" Female Spade Connector	4 Ea (4 ea)	110-External Load - 2 - B4B	5217494
SWA6A-800A	Connector Bushing	1 pcs (1 ea)	110-External Load - 2 - B4B	5044876
SWA6A-900A	Rotary Connector - 2 wire	1 pcs (1 ea)	110-External Load - 2 - B4B	5175965

Job Allocations

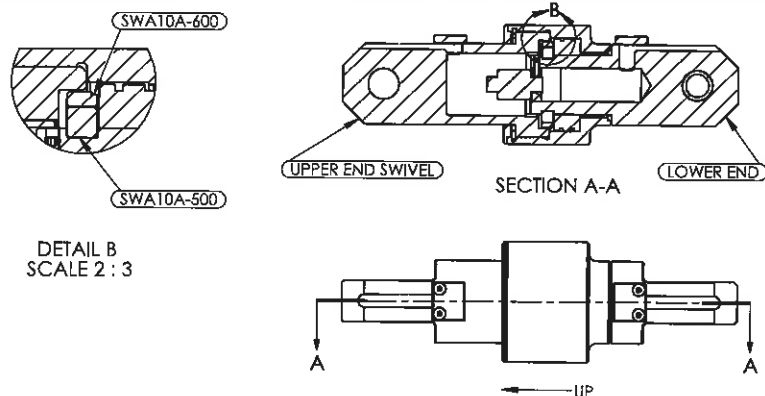
Operation	Component Part	Required	Inventory	Allocated
100-External Load - 1	188-FPSS-1032-5/8	1	253	0
110-External Load - 2 - B4B	188-FSCS-1032-5/8	4	124	0
	C10-28	1	36	0
	EL-PLUG-F	1	11	0
	EL-PLUG-M	1	20	0
	EL314-SJTOW	6	0	0
	SWA10A-100	1	5	0
	SWA10A-1100	1	17	0
	SWA10A-1200	1	21	0
	SWA10A-1300	1	10	0
	SWA10A-1400	1	13	0
	SWA10A-1800	1	6	0
	SWA10A-200	1	12	0
	SWA10A-300	1	1	0
	SWA10A-400	1	8	0
	SWA10A-500	1	18	0
	SWA10A-600	1	9	0
	SWA10A-700	2	8	0
	SWA6A-1900	4	116	0
	SWA6A-800A	1	6	0
	SWA6A-900A	1	8	0

Part Specifications

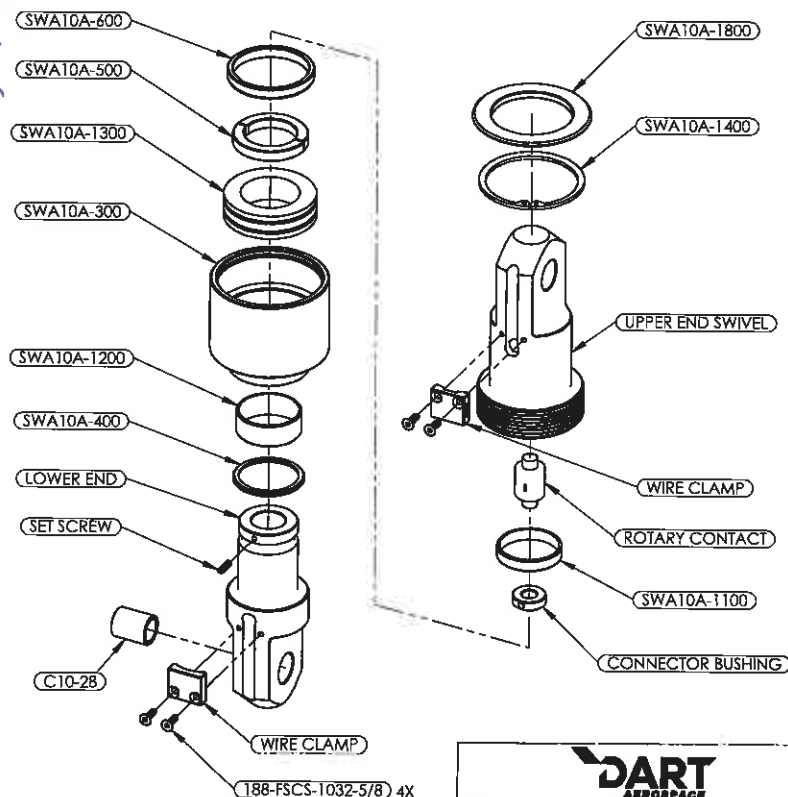
Specifications could not be found.

Plex 10/1/19 10:20 AM Dart.lajeunesse.marie

SEE ATTACHED DEVIATION



201327
MLC
19-10-11

[illegible]

-2/ QTY	-3/ QTY.	-4/ QTY.	-5/ QTY.	-8/ QTY	B/O	Part #	Description	Material	B/O INFORMATION OR SPECIFICATIONS
1	1	1	-	-		SWA10A-100	LOWER END	SS 17-4 H1150/H1075	
-	-	-	1	1		SWA10A-110	LOWER END	SS 17-4 H1150/H1075	
1	1	1	-	-		SWA10A-200	UPPER END SWIVEL	SS 17-4 H1150/H1075	
-	-	-	1	1		SWA10A-210	UPPER END SWIVEL	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-300	BEARING HOUSING	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-400	THRUST WASHER	AL-BRONZE 430	
1	1	1	1	1		SWA10A-500	SEW - RINGS	SS 17-4 H1150/H1075	
1	1	1	1	1		SWA10A-600	COLLAR	SS 17-4 H1150/H1075	
2	2	-	-	-		SWA10A-700	WIRE CLAMP	4061-T6	
-	-	2	2	2		SWA10A-700A	WIRE CLAMP	4061-T6	
1	-	-	-	-		SWA6A-800A	CONNECTOR BUSHING		
-	1	1	-	-		SWA6A-800B	CONNECTOR BUSHING		
-	-	-	1	-		SWA6A-800C	CONNECTOR BUSHING		
1	-	-	-	-	B/O	SWA6A-900A	ROTARY CONTACT		MERCOTAC #230
-	1	-	-	-	B/O	SWA6A-900B	ROTARY CONTACT		MERCOTAC #330
-	-	1	-	-	B/O	SWA6A-900C	ROTARY CONTACT		MERCOTAC #430
-	-	-	1	-	B/O	SWA6A-900D	ROTARY CONTACT		MERCOTAC #630
-	-	-	-	1	B/O	SWA6A-900E	ROTARY CONTACT		MERCOTAC #830
1	1	1	1	1		SWA10A-1100	UPPER DU BEARING	BRONZE/OLITE TUBING	
1	1	1	1	1	B/O	SWA10A-1200	LOWER DU BEARING		(KAMAN MB5020DU)
1	1	1	1	1	B/O	SWA10A-1300	ROLLER THRUST BEARING		(KAMAN B1210TH)
1	1	1	1	1	B/O	SWA10A-1400	CIRCUP		(KAMAN NS000 350 SPP)
1	1	1	1	1		SWA10A-1800	COVER	SS 17-4 H1150/H1075	
4	4	4	4	4	B/O	SWA6A-1900	1/4" FEMALE SPADE CONNECTOR		(MCMASTER-CARR #69525K16)
-	-	4	4	4	B/O	SWA6A-2000	1/8" FEMALE SPADE CONNECTOR		(MCMASTER-CARR #69525K14)
4	4	4	4	4	B/O	188-FPCS-1032-5/8	PLAT SOCKET CAP SCREW	S.S.	10-32 X 5/8 (MCMASTER-CARR #92210A303)
-	-	-	-	1	B/O	188-FPCS-1032-3/8	SET SCREW	S.S.	10-32 X 3/8 (MCMASTER-CARR #94355A335)
-	-	-	1	-	B/O	188-FPCS-1032-1/2	SET SCREW	S.S.	10-32 X 1/2 (MCMASTER-CARR #94355A337)
1	1	1	-	-	B/O	188-FPCS-1032-5/8	SET SCREW	S.S.	10-32 X 5/8 (MCMASTER-CARR #92311A430)
1	1	1	1	1	B/O	EL-PLUG-F	FEMALE PLUG	PE High Density	(MCMASTER-CARR #721616)
1	1	1	1	1	B/O	EL-PLUG-M	MALE PLUG	PE High Density	(MCMASTER-CARR #721615)
1	1	-	-	-	B/O	EL314-5/TOW	3 WIRE		6 FT. (TRUCK & AUTO SUPPLY #EL 414-ARTIC 4/14)
-	-	1	-	-	B/O	EL414-ARTIC	4 WIRE		6 FT. (TRUCK & AUTO SUPPLY #EL 414-ARTIC 4/14)
-	-	-	1	-	B/O	EL416-ARTIC	6 WIRE		6FT. (TRUCK & AUTO SUPPLY #EL 416-ARTIC)
-	-	-	-	1	B/O	30806	8 WIRE		6FT. (POLAR WIRE #30806)
1	1	1	1	1	B/O	600.1319	UP DECAL		
1	1	1	1	1		C10-26	BUSHING	SAE 660 BRONZE	3/4" Ø SHAFT X 1 O.D. X 1-1/4" (MCMASTER-CARR #63B1K193)

NOTES:

1. FOR REBUILD ONLY.
2. ALL ASSEMBLY TO BE DONE IN ACCORDANCE WITH SWA SWIVEL MANUAL.
3. 8 WIRE STRIP OUTER JACKET & DOUBLE LAYER HEAT SHRINK.

			
TITLE SWA10A SWIVEL			
DWG NO. SWA10A		REV 3	
MAT'L RECAT FINISH SPEC		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS 2/16 ANGLES 2.5° SURFACES ±.015 SHARP EDGES ±.015 ±.015 OR .5/16"	
DRAWN BY: GILBERT CHECKED: DD 04/18/2017 CHPS APPR: AA 05/05/2017 QA APPR: JL 05/10/2017 APPROVED: JAG 06/02/2017		AFTER PLATING 1. DISCREPANT LIMITS APPLY 2. INTERPRET DIM AND TOL PER USED ON MODEL	
SCALE 1:4	DATE 11/14/2012	SHEET 1 OF 2	

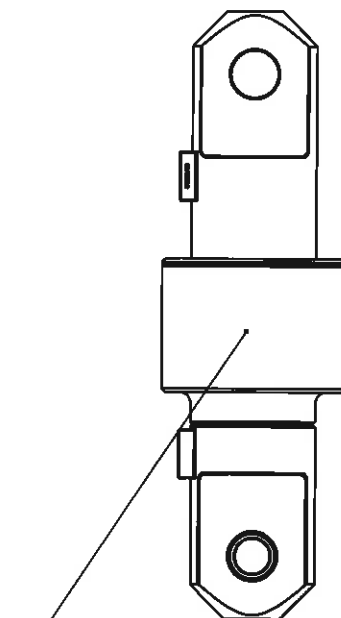
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REVISIONS						
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED	

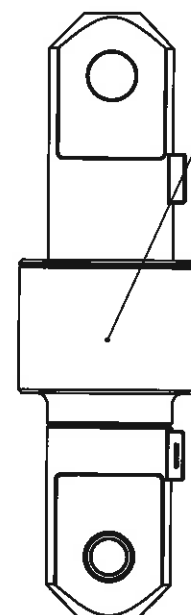
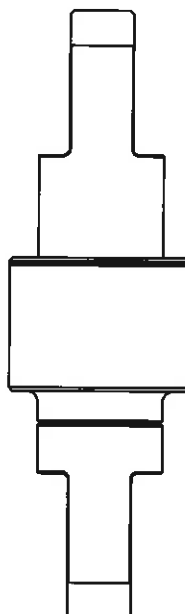
SEE ATTACHED DEVIATION



ENGRAVE P/N, S/N, SWL



LASER ENGRAVE DART LOGO



DART AEROSPACE	
TITLE SWA10A SWIVEL	
DWG NO. SWA10A	REV 3
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± .5° .X ± .1 SURFACES = 125/
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: DD 04/18/2017	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: AA 05/05/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: JL 05/10/2017	USED ON MODEL
APPROVED: JAG 06/02/2017	
SCALE 1:4	DATE 11/14/2012 SHEET 2 OF 2

P/N	Revision	Drawing Specified Wire	Acceptable Alternate Wire
C2	2	MIL-C-27500 11-14416	N/A
C3	2	MIL-C-27500 11-14417	N/A
C10	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C15	2	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C20	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C45	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C60	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C250	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-2	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-3	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-4	3	EL 414-ARTIC 4/14	Texcan 01121-744A5
SWA6A-2	E	Texcan 01121-724AM	N/A
SWA6A-3	E	Texcan 01121-734A5 or 01004-08-047	N/A
SWA6A-4	E	Texcan 01121-744A5	N/A
SWA6A-6	E	Texcan 04121-764A5	N/A
SWA6A-8	E	Texcan 12701-08-014 or McMaster 7081K38	N/A
SWA10A-2	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA10A-3	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA10A-4	3	EL 414 ARTIC 4/14	Texcan 01121-744A5
SWA10A-6	3	EL 616 ARTIC	Texcan 04121-764A5
SWA10A-8	3	Polar Wire 30806	Texcan 12701-08-014 or McMaster 7081K38
SWA15A-2	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA15A-3	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA15A-4	1	EL 414 ARTIC 4/14	Texcan 01121-744A5
SWA15A-6	1	EL 616 ARTIC	Texcan 04121-764A5
SWA15A-8	1	EL 816 ARTIC	Texcan 12701-08-014 or McMaster 7081K38
SAW25A-2	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SAW25A-3	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SAW25A-4	1	EL 414 ARTIC 4/14	Texcan 01121-744A5
SAW25A-6	1	EL 616 ARTIC	Texcan 04121-764A5
SAW25A-8	1	EL 816 ARTIC	Texcan 12701-08-014 or McMaster 7081K38



Electric Swivel
SWA10A

Work Order 201327

Customer _____

Number of Wires 2

Date 2019-10-9

Serial Number 5220774

Number of Cycles	Load (Lbs.)	Action	Pass/Fail
1	10,000	Check for Conductivity against all wires.	Pass
1	10,000	Check all wires for grounding against swivel body.	Pass
1	5,000	Check for Conductivity against all wires.	Pass
1	5,000	Check all wires for grounding against swivel body.	Pass
1	2,500	Check for Conductivity against all wires.	Pass
1	2,500	Check all wires for grounding against swivel body.	Pass
1	0	Check for Conductivity against all wires.	Pass
1	0	Check all wires for grounding against swivel body.	Pass

Test Conducted By:

Michel Lalonde

Technician



Signature:

Sylvie Pouchet
QC 5 Small FAB / QA

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>201327</u> Part No. <u>SWA### Swivels</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐																																																																																																																																			
Date: <u>2019/10/09</u>		Step #: _____		QTY Effective: _____		MRB (QS1042) Approval <i>M Lee</i> Feb 01, 2018																																																																																																																																	
Description Work Order Deviation - Use a combination of heatshrink tubing and RTV Silicone to create a watertight seal around all electrical connections. - Use a D2728-1 Placard in place of the laser engraved Dart logo				Disposition These deviations are acceptable to carry out on the following swivels: - SWA3 - SWA6A - SWA10A - SWA15A - SWA25A - PSWA25A - HH40-Q280002 <i>M Lee</i> There is no impact on fit, form or function.		Completed By <i>A Parry</i> Lead hand / Supervisor Approval Verification DAS 30 9-89 OCT 10 2019																																																																																																																																	
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Entered: TR Date: Oct



NCR No. 19-7503

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only ☐

Job: <u>201327</u> Part No. <u>C series hooks and SWA Swivels</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☒ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐					
Date : <u>2019/10/09</u>		Sequence #:		QTY Affected : <u>1</u>		MRB (QSI042) May, 9 2019 <i>M Lee</i> Completed By <u>A PATRY</u> ¹⁹⁻¹⁰⁻¹⁹ Lead hand / Supervisor DAS 30 9-88 OCT 10 2019			
Description Work Order Deviation The electrical wires listed under "Acceptable Alternate Wire" on the attached sheet are acceptable to use in place of the "Drawing Specified Wire"				Disposition This deviation is acceptable. No change to fit form or function. The job route must specify the wire that is called out on the drawing The inventory P/N must reflect the same P/N that was received from a vendor				QC / QA Coordinator DAS 68 9-88 OCT 10 2019	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☒ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☒ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread							
		Other/Details:							